

WHAT IS CLAIMED IS:

1. A colorblind driving aid installed in a vehicle for improving color discrimination of a traffic light, comprising:

a detector, operative to detect a traffic light within a predetermined distance at a predetermined angle;

a processor, operative to process the traffic light detected by the detector into a form with improved color discrimination; and

a display, operative to reproduce the traffic light with improved color discrimination.

2. The colorblind driving aid of Claim 1, wherein the detector and the processor are integrated to a camera.

3. The colorblind driving aid of Claim 1, wherein the detector, the processor and the display are integrated to a camera.

4. The colorblind driving aid of Claim 1, wherein the detector is disposed in a position inside a vehicle allowing the detector to detect the traffic light through a windshield of the vehicle.

5. The colorblind driving aid of Claim 1, wherein the predetermined distance is a distance between the traffic light and the vehicle within which the traffic light is visible to the driver.

6. The colorblind driving aid of Claim 1, wherein when the detector is within the predetermined distance of the traffic light, detector is operative to detect the traffic light in an area from 11 o'clock position to 4 o'clock position with respect to the driver.

7. The colorblind driving aid of Claim 1, further comprising at least one filter to filter wavelengths of light beyond the wavelength ranges of red, yellow and green.

8. The colorblind driving aid of Claim 1, wherein the display includes a liquid crystal display.

9. The colorblind driving aid of Claim 1, wherein the display includes a light-emitting diode display.

10. The colorblind driving aid of Claim 1, wherein the display includes a miniature of the traffic light.

11. The colorblind driving aid of Claim 1, further comprising:
a memory pre-storing sounds indicating colors of the traffic light; and
an audio device, operative to output the sound.

12. The colorblind driving aid of Claim 11, wherein the memory pre-stores texts indicating colors of the traffic light.

13. The colorblind driving aid of Claim 12, wherein the memory is in electric communication with the display.

14. A method of improving color discrimination of a traffic light for a colorblind driver, comprising:

detecting a traffic light in front of a driver within a predetermined distance and a predetermined viewing angle;

processing the traffic light into a form with improved color discrimination for the driver; and

displaying the processed traffic light to the driver.

15. The method of Claim 14, wherein the step of processing the traffic light includes increasing brightness of the traffic light.

16. The method of Claim 14, further comprising a step of filtering unwanted wavelengths of the detected light.

17. The method of Claim 14, further comprising a step of generating a text indicating the color of the traffic light.

18. The method of Claim 14, further comprising a step of generating a sound indicating the color of the traffic light.